Induced sadness increases persistence in a simulated slot machine task among recreational gamblers

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INTRODUCTION

DSM-5 criteria

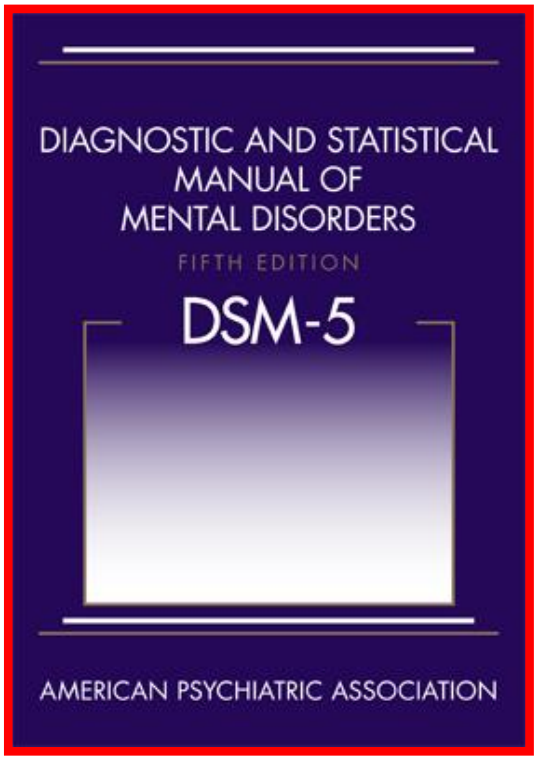
Gambling Disorder

Diagnostic Criteria **312.31 (F63.0)**

A. Persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress, as indicated by the individual exhibiting four (or more) of the following in a 12-month period:

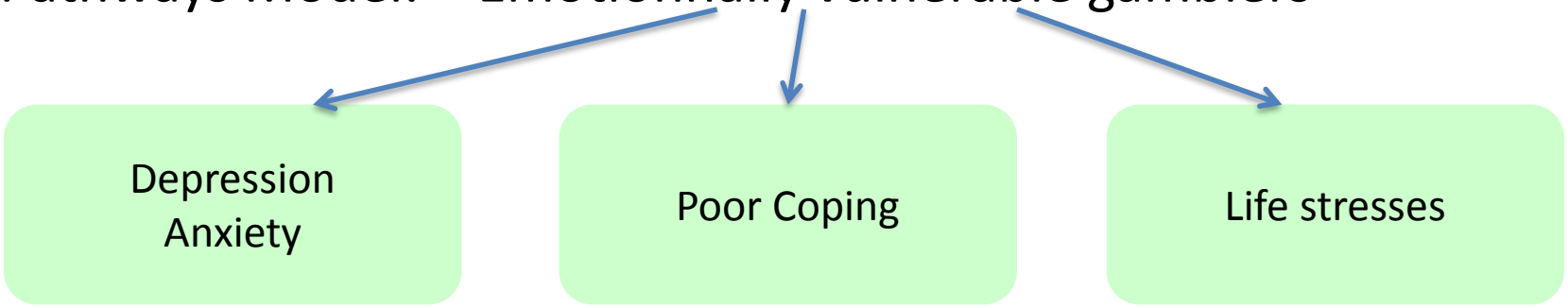
1. Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
2. Is restless or irritable when attempting to cut down or stop gambling.
3. Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
4. Is often preoccupied with gambling (e.g., having persistent thoughts of reliving past gambling experiences, handicapping or planning the next venture, thinking of ways to get money with which to gamble).
5. Often gambles when feeling distressed (e.g., helpless, guilty, anxious, depressed).
6. After losing money gambling, often returns another day to get even ("chasing" one's losses).
7. Lies to conceal the extent of involvement with gambling.
8. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
9. Relies on others to provide money to relieve desperate financial situations caused by gambling.

B. The gambling behavior is not better explained by a manic episode.



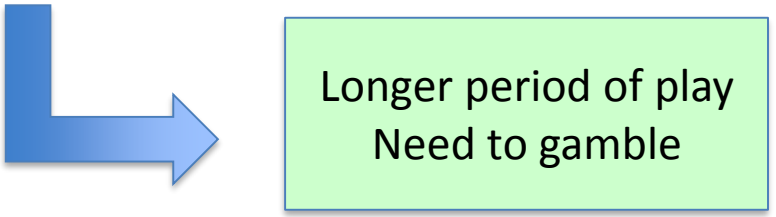
Emotions & Gambling

- Pathways Model: « Emotionnally vulnerable gamblers »



- Coping motives: vulnerability factors for the development of GD

- Comorbidities : mood disorders: depression



(Blaszczynski & Nower, 2002; Canale et al., 2015; Devos et al., 2017; Petry, et al., 2005; Quigley et al., 2015; Rømer et al., 2009)

Mood disorders induction & gambling

Addiction (2001) 96, 1629–1638

RES

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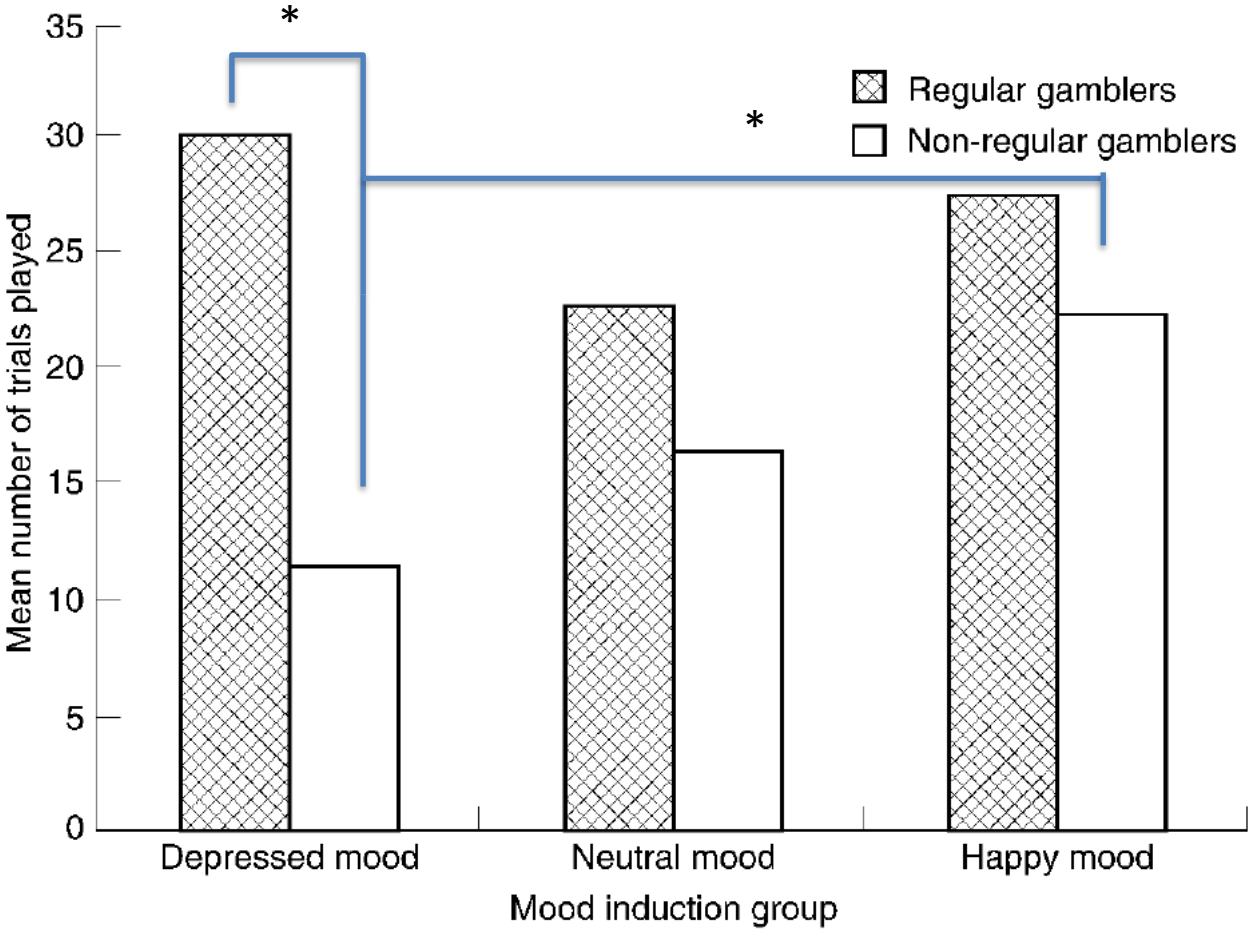


Fig

Figure 2. *Mean number of trials played as a function of type of gambler and mood induction groups.*

- Nc
emc
- Nc

Mood disorders induction & gambling

Addiction (2001) 96, 1629–1638

RESEARCH REPORT

Induced mood and persistence at gaming

ADELMA M. HILLS, SANDI HILL, NATALIE MAMONE & MARK DICKERSON

University of Western Sydney, New South Wales, Australia

J Gambl Stud (2010) 26:373–386
DOI 10.1007/s10899-009-9158-4

ORIGINAL PAPER

Mood and Audience Effects on Video Lottery Terminal Gambling

Sandeep Mishra · Michael Morgan · Martin L. Lalumière · Robert J. Williams

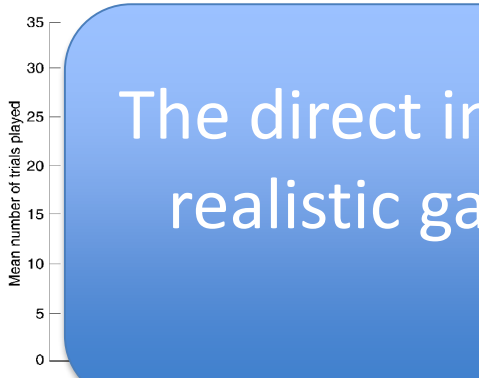


Figure 2. *Mean number of trials played as a function of type of gambler and mood induction groups.*

The direct influence of induced sadness on realistic gambling games in recreational gamblers

- No measure of affective state before emotional induction
- No ecological gambling task

- No gambler, undergraduate sample
- No measure of affective state before emotional induction

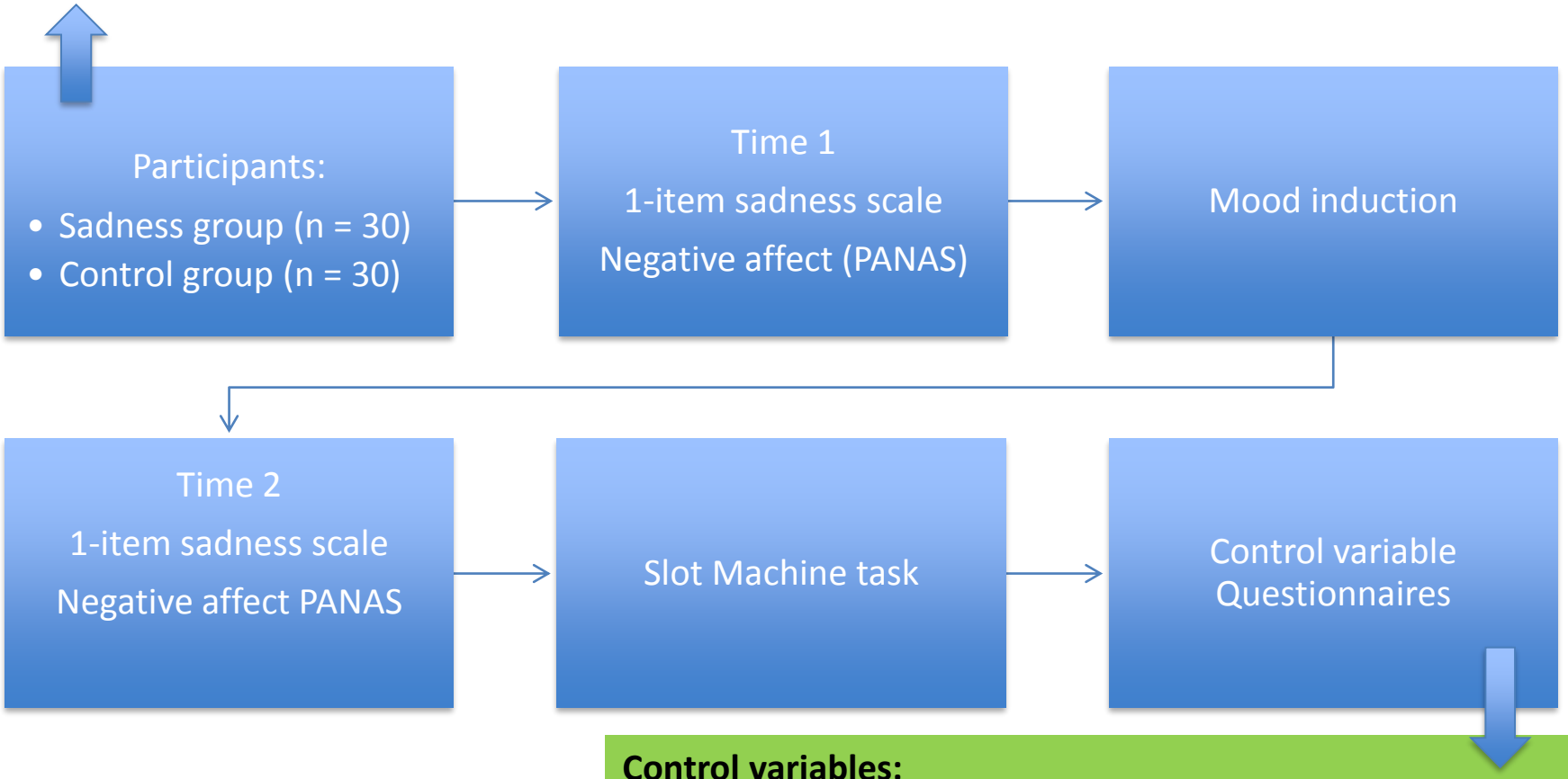
OBJECTIVE

Gamblers in the sadness condition would display increased persistence compared to gamblers in the neutral mood condition

METHOD

Study design

Population
60 adults (28 women)
Age : 32,15
Education : 14,40



Control variables:
Symptoms of disordered gambling (SOGS)
Gambling-Related Cognitions (GRCS)
Impulsivity traits (UPPS-P): Positive & Negative Urgency, Premeditation, Perseverance, Sensation Seeking

Emotional Induction (Schaefer et al., 2010)

Sad movie : City of Angels

Neutral movie

Slot machine task (adapted from Clark et al., 2009)

Participant's base money:
6 euros

Simple bet: 5 cent
Double bet : 10 cent

If gain = 0,5 / 1 euro

Mandatory phase (25 trials):

4 wins (16%),
9 near-misses (36%),
12 losses (48%)

Optional persistence phase:

Stop at any time

Selection Phase (5s)	*Rating 1*	Anticipation phase (2.8-6.0s, mean 4.4s)	Outcome Phase (4s)	*Ratings 2a and 2b*	Interval between trials (1s)

Rating 1: "How do you rate your chances of winning?" (0 to +100)

Rating 2a: "How pleased are you with the result?" (-100 to +100)

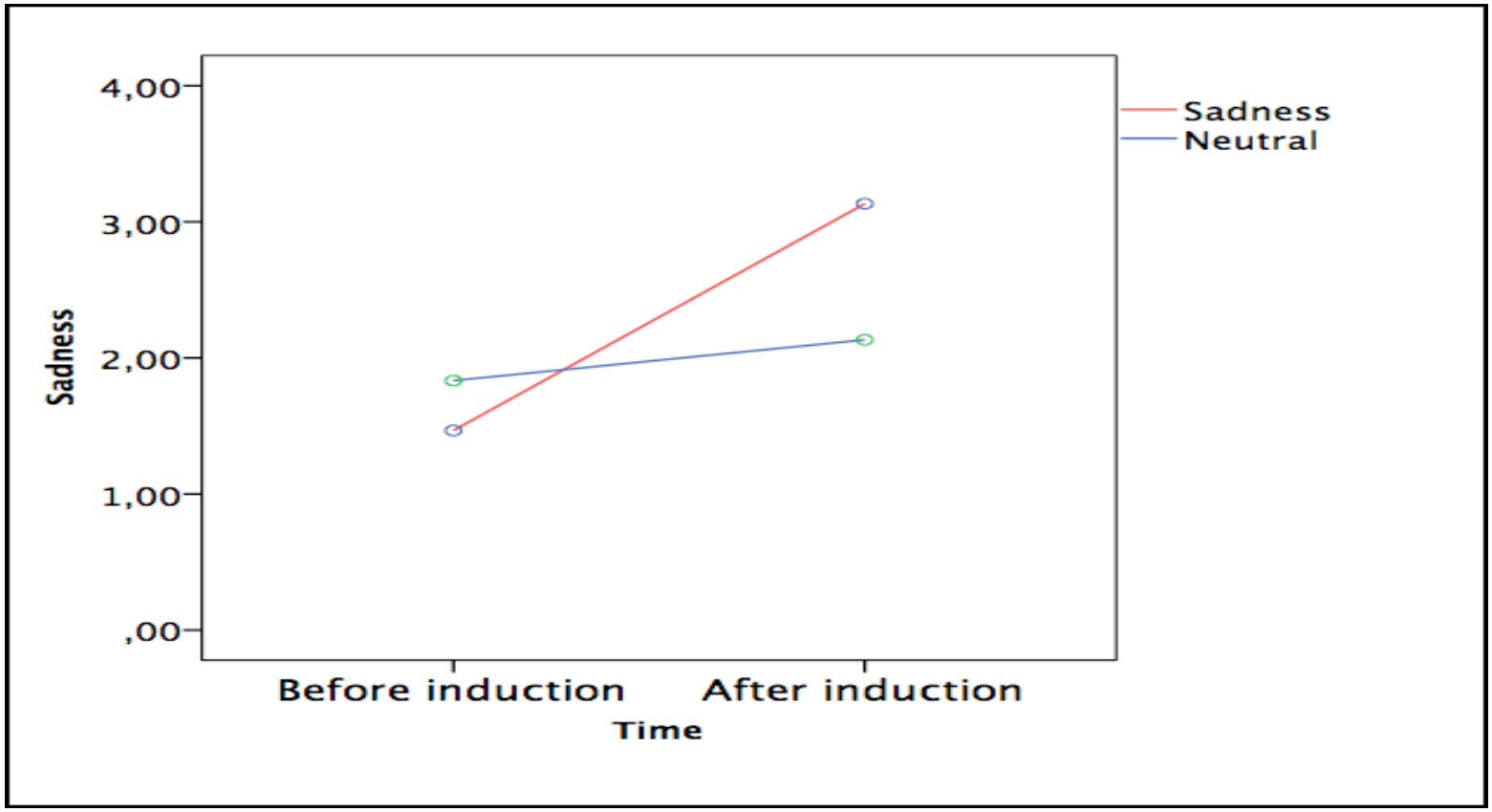
Rating 2b: "How much do you want to continue to play the game?" (0 to 100)

RESULTS

Control Variables

Variable Name	Sadness Group (n=30)			Control Group (n=30)			Statistical test
	M	SD		M	SD		
Age	31.97	13.44		32.33	15.68		p=.923
Men/women	16/14			16/14			p=1.00
Educational level	14.60	2.14		14.20	1.80		p=.434
SOGS	1.77	1.87		2.40	2.11		p=.224
GRCS-total	60.83	17.38		69.27	22.11		p=.106
UPPS-P-Negative Urgency	9.63	2.93		10.17	3.10		p=.496
UPPS-P-Positive Urgency	10.87	2.35		11.13	2.56		p=.675
UPPS-P- (lack of) Premeditation	7.50	1.94		7.83	2.09		p=.524
UPPS-P- (lack of) Perseverance	6.60	2.28		7.63	2.63		p=.110
UPPS-P-Sensation seeking	11.03	2.11		11.03	2.17		p=1.00

Emotional Induction

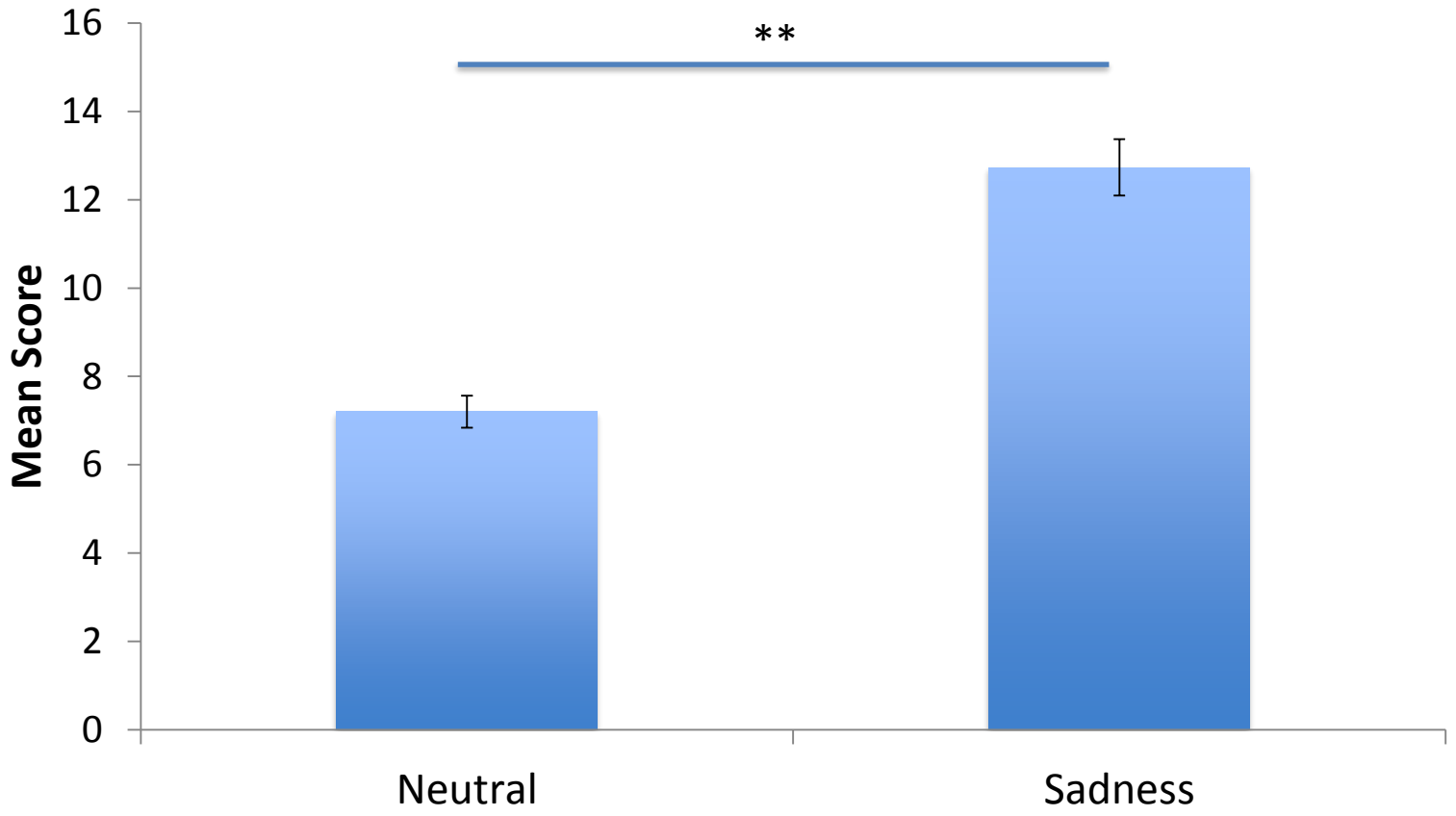


Time × Group interaction: F(1,119) = 3.920, p = .050

Main effect of Time: F(1,119) = 8.117, p < .01

Main effect of Group: F(1,119) = .842, p = .361

Persistence Result (Slot Machine task)



Group difference: t(58) = 2.632, p = .011; Cohen's d = 0.7

Main effect of Group remained significant after controlling for symptoms of disordered gambling: F(1,59) = 5.124, p = .028.

DISCUSSION

Discussion

- Persistence: Sadness > neutral
- Comorbidity: Gambling & Mood disorders/Coping motives
- Longer period of gamble depressive symptomatology
- Study design
- Clinical implications

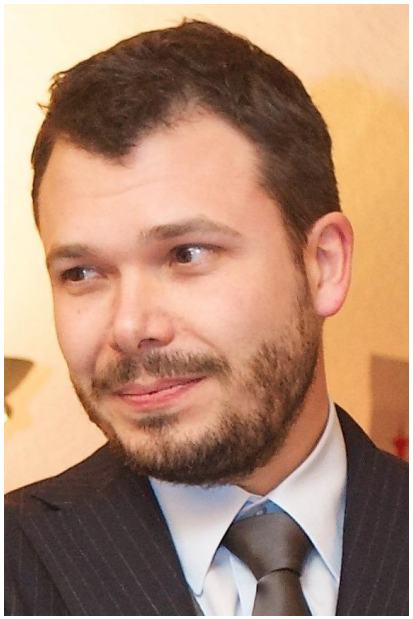
Limitations

- Ecological validity of the task
- Sample
- One-item sadness scale

Future perspectives

- Replication in problem/pathological gamblers
- Used of an ecological gambling task and a controlled mood induction paradigm in actual gamblers
- Gambling specific persistence or present in other persistence tasks without gambling involvement

Acknowledgements



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Thank you for your attention

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BRIEF REPORT

Induced Sadness Increases Persistence in a Simulated Slot Machine Task Among Recreational Gamblers

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